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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
09 851,566	05 08 2001	Charles A. Miller	P147-US	3229

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[REDACTED] EXAMINER

CATHEY, DAMIAN E

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2817

DATE MAILED: 06 24 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/851,566	MILLER, CHARLES A.
	Examiner Damian E. Cathey	Art Unit 2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 08 May 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

See the attached detailed Office action for a list of the documents received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 119(e) to a provisional application.
a) The translation of the foreign language provisional application has been received.

- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1. Notice of References Cited (PTO-892).
- 2. Notice of Draftsperson's Patent Drawing Review (PTO-946).
- 3. Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4. Interview Summary (PTO-1413) Paper No _____.
- 5. Notice of Informal Patent Application (PTO-1447).
- 6. Other _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepf U.S. Patent No. 5,138,436 in view of Tronche et al. U.S. Patent No. 5,917,388.

Referring to claim 1, Koepf discloses (Fig. 4) an electronic system comprising a transmission line, 31, a semiconductor substrate, 28 (See Koepf Col. 5, line 40), a first integrated circuit, 18, formed on the surface of the semiconductor substrate, 28, a first electromagnetic coupler, 62, (See Koepf Col. 7, line 43) in electrical communication with the first integrated circuit, 18, and the coupler, 62, is spaced from the transmission line, and electromagnetically coupled to the transmission line (See Koepf Col. 7, line 46), whereby data provided to first electromagnetic coupler, 62, is contactlessly

transmitted to the transmission line, 31, by the first electromagnetic coupler, 62, and received by the transmission line, 31.

and b) formed on the surface of the semiconductor substrate, 28, a second electromagnetic coupler in electrical communication with the second integrated circuit, spaced from the first electromagnetic coupler in sufficient proximity to the first

electromagnetic coupler to be electromagnetically coupled to the first electromagnetic coupler (See Fig. 1 the interconnect substrate, 28 includes dc interconnect transmission line that allows for communication between chips), whereby data provided to the first electromagnetic coupler, 62, is contactlessly communicated to the second electromagnetic coupler.

Claim 1 states that the electrical system includes a printed circuit board including a transmission line, and a semiconductor substrate mounted on the printed circuit board, and that the second integrated circuit is formed on a second surface of the semiconductor substrate, which is not stated by Koepf.

Tronche et al. disclose (Fig. 1) a microwave module, 1, having a plurality of integrated circuits, 20, 21, and 22, interconnected in a stacked configuration, and further discloses that such a link between circuits belonging to respective ones of stacked elementary structures make the resulting module very compact while guaranteeing good propagation of the signal between circuits.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the device of Koepf include stacked electromagnetically coupled integrated circuits as taught by Tronche et al. and a printed circuit board including a transmission line, and a semiconductor substrate mounted on the printed circuit board.

The above modification would have been considered obvious as an advantageous benefit of providing a compact module while guaranteeing good propagation of the signal between circuits, as taught by Tronche et al., thereby

suggesting the obviousness of such a modification. Furthermore, it should be noted that it would have been obvious to have mounted the device on a circuit board because the device shows input/output terminals (See Fig. 6), thereby suggesting connecting the device to other circuit elements, which would require a conventional circuit board, as would have been well known for use in RF communication devices, for example.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application Publication No. 2002/0057137 A1 to Marketkar et al. is cited with respect to the state of the art of electromagnetically coupled integrated circuits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Damian E. Cathey whose telephone number is 703-305-1631. The examiner can normally be reached on 7:00 - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on 703-308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are 703-435-2857 for regular communications and 703-305-0142 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dc
June 20, 2002

Justin P. Bettendo
✓ Justin P. Bettendo
Frances J. Kuehner
Art Unit 2817